

### Remarks

Please reconsider the application in view of the above amendments and the following remarks. Claims 1 and 9 have been amended. New claim 11 has been added. No new matter has been added by way of these amendments. Applicants seek to place the claims in more suitable condition for US prosecution.

### Objections under 35 U.S.C 102

Claims 1 and 9 have now been amended to emphasize the distinction over Reynolds (US 4,008,608).

Reynolds is concerned with measuring the geothermal gradient of subterranean formations as taught at column 1 lines 60 to 67 relied on by the examiner (i.e. rock strata -- see abstract also).

The present application is not concerned with velocity in the formation surrounding a borehole, rather with velocity *"in a drilling fluid within a borehole"*. Specifically, paragraph [0043] describes that embodiments of the invention measure the velocity of an ultrasonic pulse in the drilling mud which either exists in the mud channel (Figures 3 and 5) or in the annulus (Figure 7).

Examiner points to Reynolds as teaching a propagation path that is along the rock-borehole interface, but includes portions through the drilling fluid. However, this is wholly different from the arrangement claimed, which now also has been amend to recite *"through the drilling fluid in the borehole between the first and second transducers"*. Thus, it should be clear that the velocity propagation path is measured in the drilling mud between the transducers. Moreover, the claimed arrangement makes it clear that the distance (d) is in the drilling fluid between the transducers.

New claim 11 has been added which is specifically directed at the Figure 3 embodiment, wherein the drilling mud is pumped through a channel defined with the tool chassis or housing as described at paragraphs [0023] and [0024] as filed, which is clearly different from Reynolds.

Examiner also relies on Warner, but previous arguments apply in that Warner teaches away from the concept of using multiple acoustic devices for determining a distance, in which it is described at column 3 lines 18-20 how multiples devices significantly increase the cost of the overall system. Instead, Warner teaches a single ultrasonic transducer 34 (see Col. 3 lines 40-42 and Figure 1). Thus both claims 1 and 9 are distinguished over Warner in reciting "*a first ....and a second ultrasound transducer*".

Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned at the telephone number listed below.

This paper is submitted in response to the Office Action mailed July 9, 2007 for which the three-month date for response was October 9, 2007. Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of two months in which to respond to the Office Action. This two month extension will bring the deadline for response to December 9, 2007, which is within the six-month statutory period.

Dated: 12/10/07

Respectfully submitted,  
By Jonna Flores  
Jonna Flores  
Registration No.: 56803  
Schlumberger Technology Corp.  
200 Gillingham Lane  
Sugar Land, TX 77478  
281-285-3658 (tel)  
281-285-8821 (fax)